FIG. 1

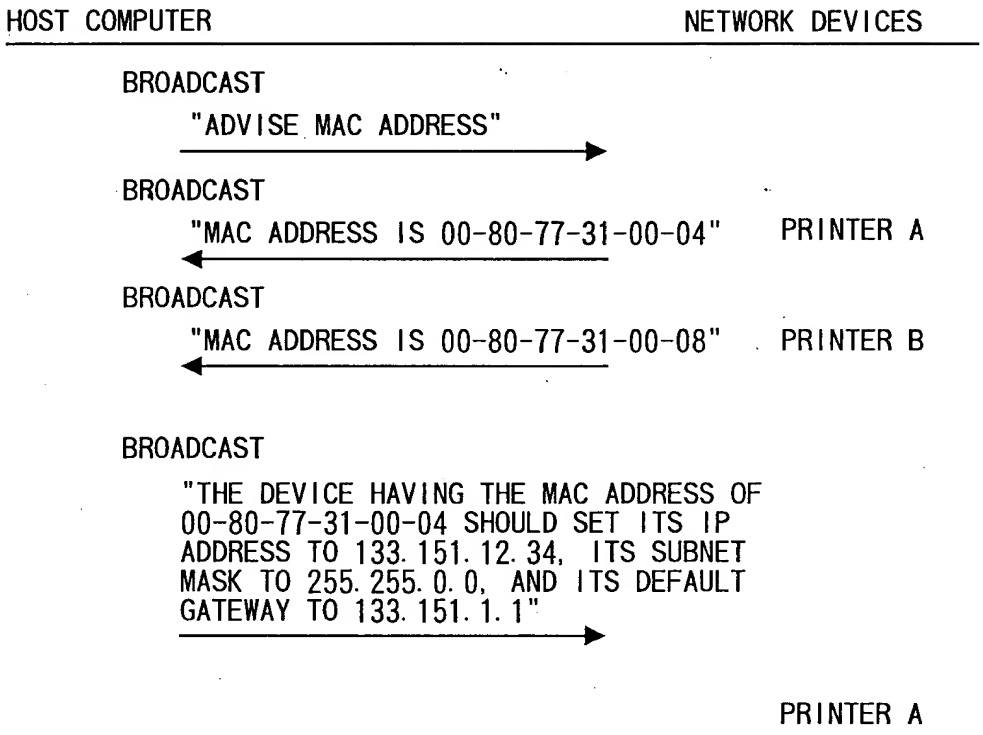

HOST COMPUTER
NETWORK DEVICES
BROADCAST
"ADVISE MAC ADDRESS"
BROADCAST
"MAC ADDRESS IS 00-80-77-31-00-04"
PRINTER A
BROADCAST
"MAC ADDRESS IS 00-80-77-31-00-08"
PRINTER B
BROADCAST
"THE DEVICE HAVING THE MAC ADDRESS OF 00-80-77-31-00-04 SHOULD SET ITS IP ADDRESS TO 133.151.12.34, ITS SUBNET MASK TO 255.255.0.0, AND ITS DEFAULT GATEWAY TO 133.151.1.1"
PRINTER A

FIG. 2

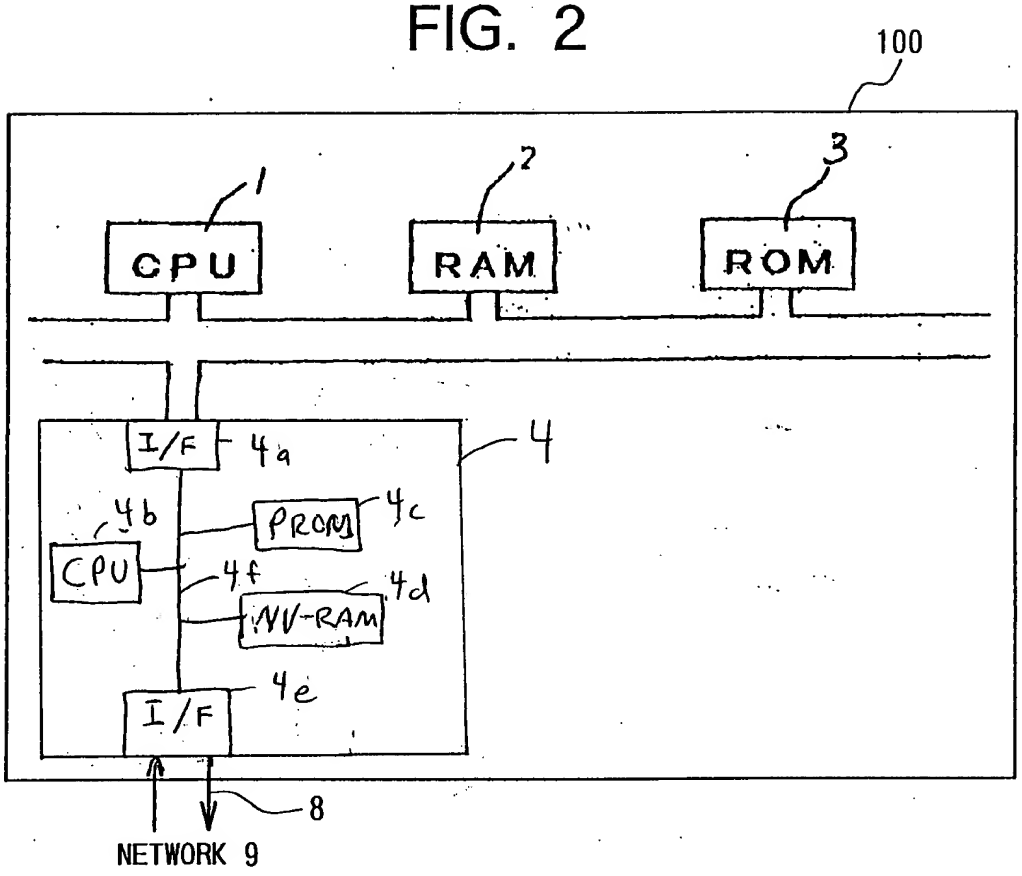

100
1
2
3
CPU
RAM
ROM
I/F
4a
4
4b
PROM
4c
CPU
4f
4d
NV-RAM
I/F
4e
8
NETWORK 9

FIG. 3

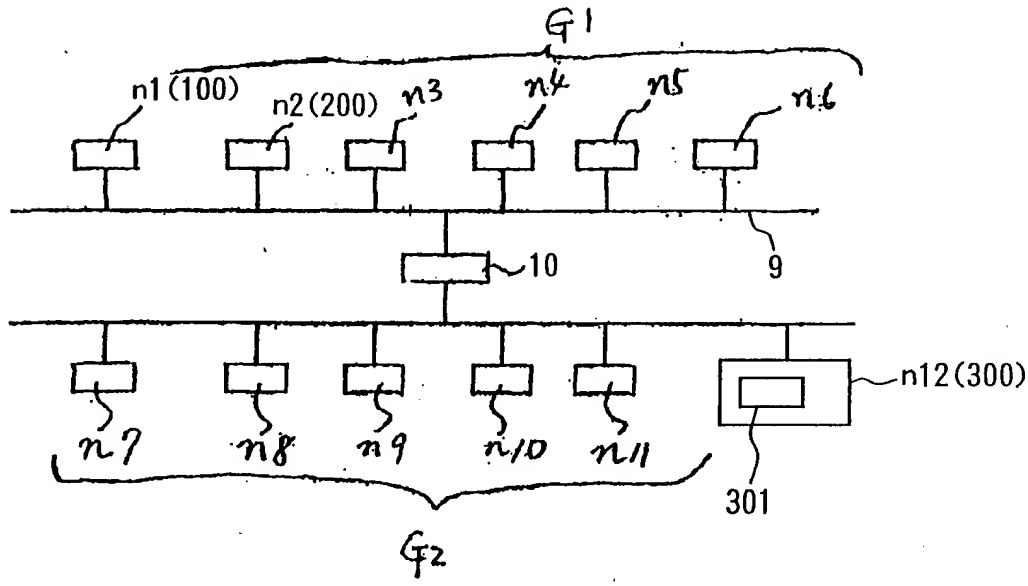

G1
n1(100)
n2(200)
n3
n4
n5
n6
10
9
n12(300)
n7
n8
n9
n10
n11
301
G2

FIG. 4 (a)

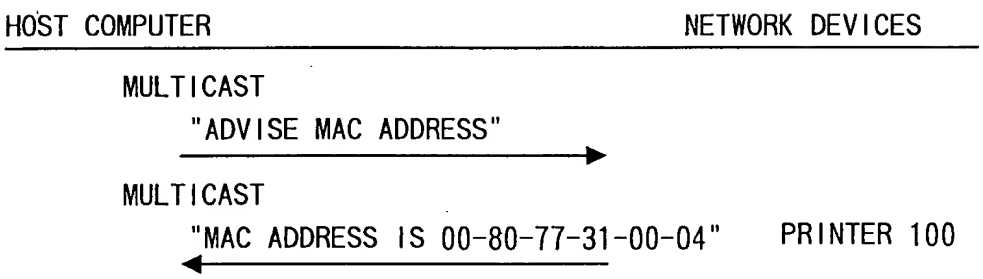


FIG. 4 (b)

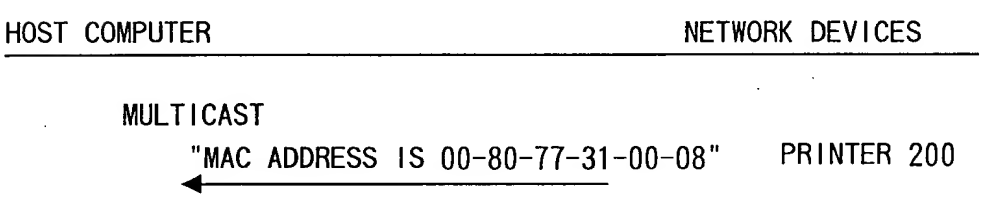


FIG. 4 (c)

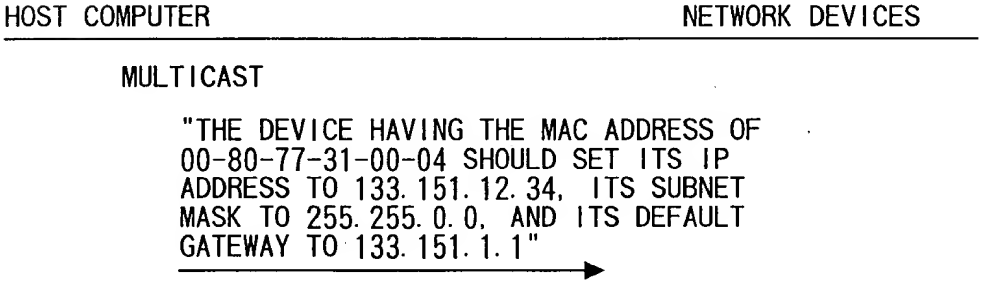


FIG. 4 (d)

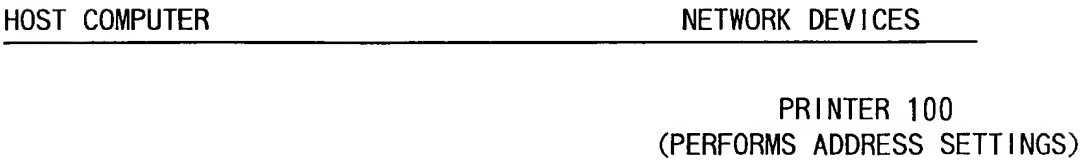


FIG. 5

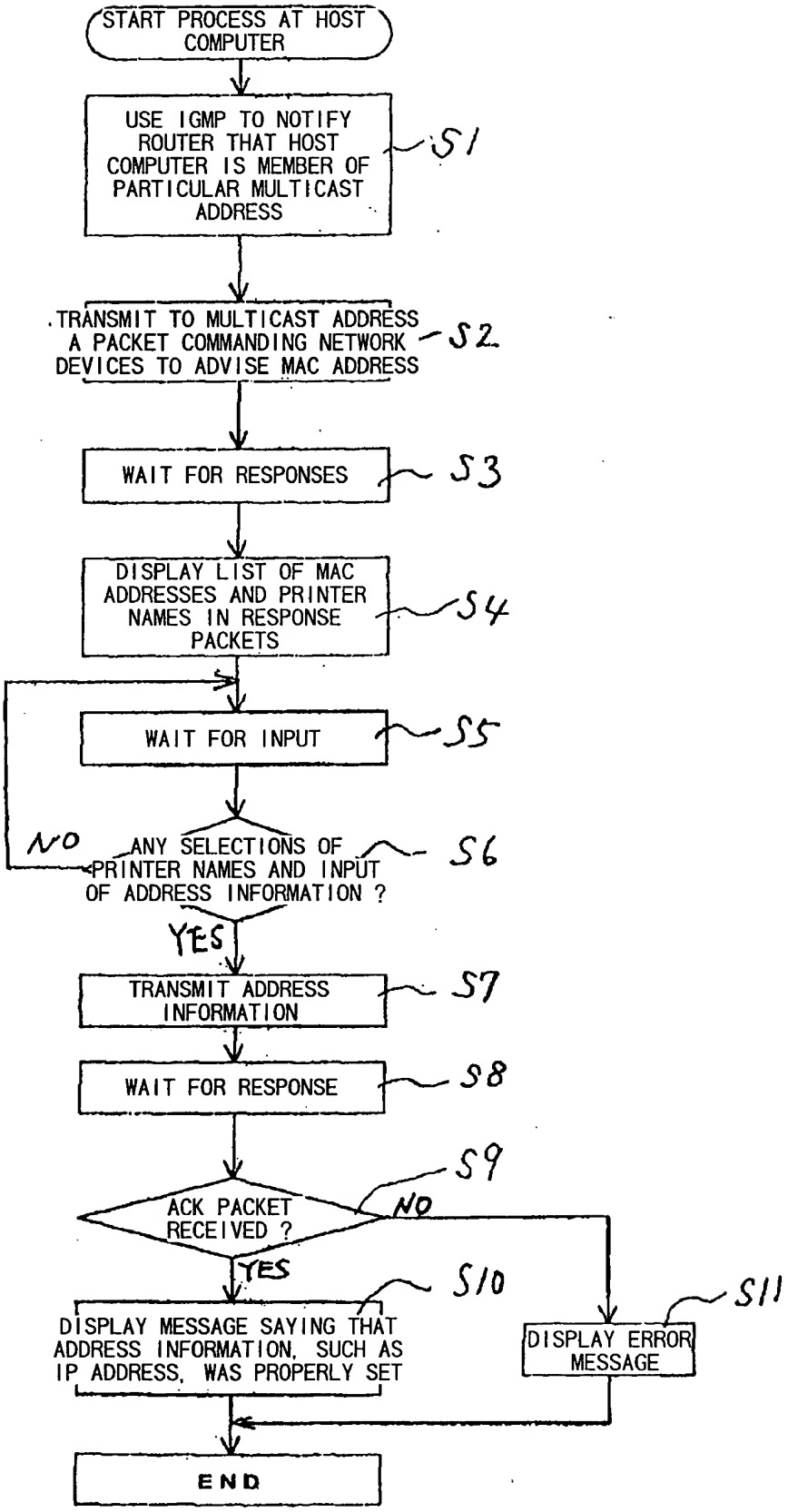
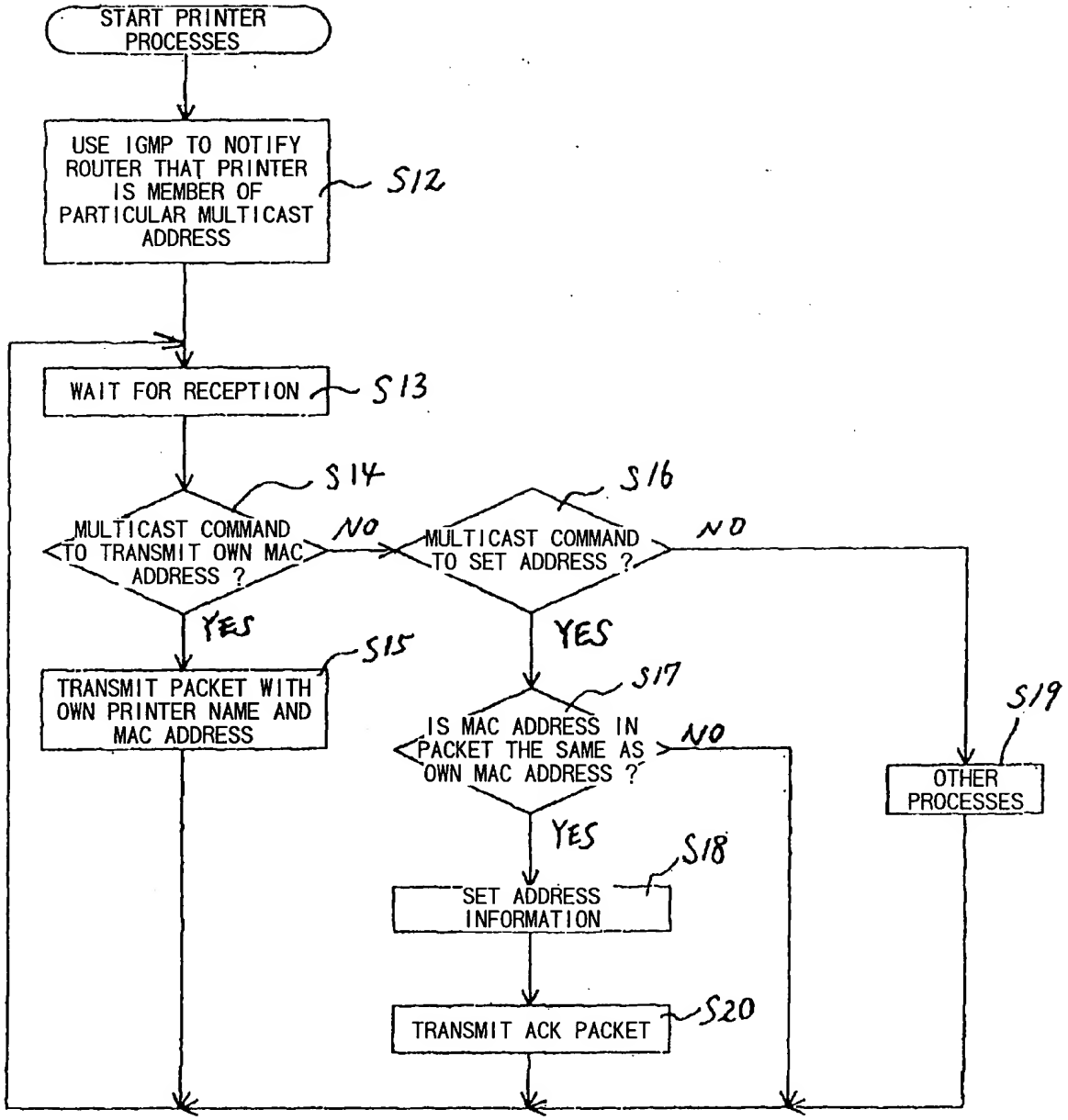

START PROCESS AT HOST COMPUTER
USE IGMP TO NOTIFY ROUTER THAT HOST COMPUTER IS MEMBER OF PARTICULAR MULTICAST ADDRESS
S1
TRANSMIT TO MULTICAST ADDRESS A PACKET COMMANDING NETWORK DEVICES TO ADVISE MAC ADDRESS
S2
WAIT FOR RESPONSES
S3
DISPLAY LIST OF MAC ADDRESSES AND PRINTER NAMES IN RESPONSE PACKETS
S4
WAIT FOR INPUT
S5
NO
ANY SELECTIONS OF PRINTER NAMES AND INPUT OF ADDRESS INFORMATION ?
S6
YES
TRANSMIT ADDRESS INFORMATION
S7
WAIT FOR RESPONSE
S8
S9
ACK PACKET RECEIVED ?
NO
YES
S10
DISPLAY MESSAGE SAYING THAT ADDRESS INFORMATION, SUCH AS IP ADDRESS, WAS PROPERLY SET
S11
DISPLAY ERROR MESSAGE
END

FIG. 6


START PRINTER PROCESSES
USE IGMP TO NOTIFY ROUTER THAT PRINTER IS MEMBER OF PARTICULAR MULTICAST ADDRESS
S12
WAIT FOR RECEPTION
S13
S14
MULTICAST COMMAND TO TRANSMIT OWN MAC ADDRESS ?
NO
YES
S15
TRANSMIT PACKET WITH OWN PRINTER NAME AND MAC ADDRESS
S16
MULTICAST COMMAND TO SET ADDRESS ?
NO
YES
S17
IS MAC ADDRESS IN PACKET THE SAME AS OWN MAC ADDRESS ?
NO
YES
S18
SET ADDRESS INFORMATION
S20
TRANSMIT ACK PACKET
S19
OTHER PROCESSES